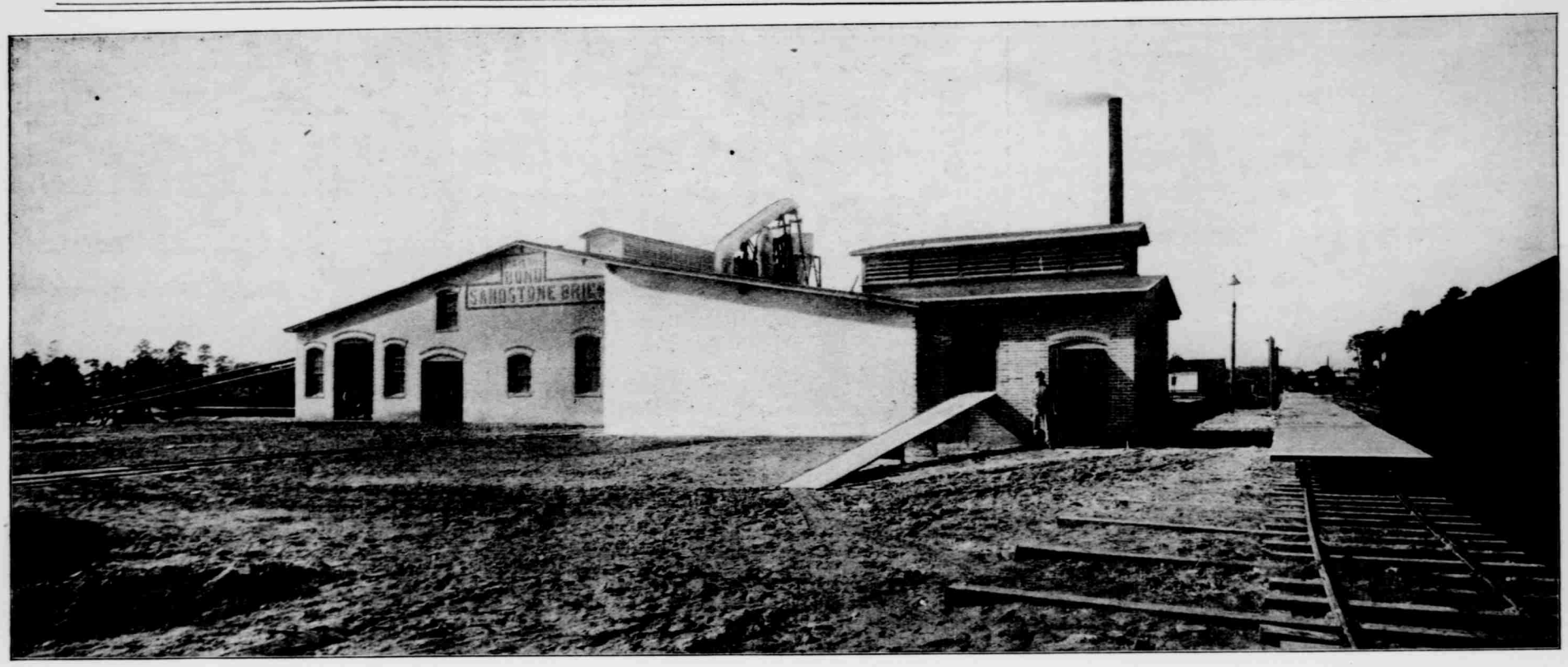

FACTORY BUILDINGS AT LAKE HELEN.

The Bond Sandstone Brick Company.

LIEBIG, Presenius, Van der Hoff. These German scientists stand among the first in the scientific world, and are noted in chemistry and physics. To them we would add that of Dr. Michaelis, another noted German whose research and investigations have added so much to the welfare of his own and other countries. His great discovery of the reaction which takes place when mixed sand and lime are united and changed to a silicate of calcium under a high pressure of steam has already revolutionized the building industry in Europe; and, although it has been tried but a few years in this country, it is rapidly superseding brick, concrete and the various building stones.

In all cities and towns where there is much congestion of buildings, wood is out of the question as a building material; and its increased cost makes it less desirable in the suburbs of cities and the open country. Not only its inflammable character, but its short life, in the South particularly, makes it very undesirable and really a poor investment.

When we mention bricks as being made of sand and lime we naturally think of the old mortar bricks of one hundred years ago, many buildings of which are still in existence, and are likely to outlast the clay brick buildings and those built of nature's sandstone and marble alongside. This mortar brick is and was a good brick, and those you may take out of old walls to-day will be found to resist more crushing strength than nature's sandstone.

Calcium carbonate occurs in many forms. It gives strength to our bones. The clam, oyster and other mollusk shells are almost pure calcium carbonate. The eggshell is another form. Great mountain ranges are formed of it, and in the form of marble it is used as a building material. When burned the carbonate is driven out and the product is calcium or more familiarly known as unslaked lime. When to unslaked lime, fresh from the kiln we add one-third its weight of water we cause a great evolution of heat and caustic or slaked lime is produced. If in this we mix a quantity of sand, the resultant will be calcium hydrate and carbonate of sand, that take up increased quantities of carbon from the air and forms a calcium carbonate which firmly binds the bricks and stones between which it has been placed. This form of carbonate of calcium was made into mortar bricks hundreds of years ago, and many buildings are still in existence. This form of calcium is very susceptible to frost and weather and acids It is not a good fire resistant, either, but compares favorably with ordinary clay brick.

In 1880 it was discovered that if freshly pressed bricks of sand and lime were subject to several hours pressure under steam heat the resultant would be a silicate of calcium. This silicate is like unto glass in its resistance to acids and it has many of the good properties of glass with none of the defects of glass as a building material.

Characteristics.

It does not scale.
Improves with age.
Great crushing strength.
Low in porosity.
Poor electrical conductor.
Great heat resistance.
Uniform in size, hence:
Great economy in laying.
Resistance to frost, wind and sun.
Unlimited effects in color.
Superior for sewers, tunnels, etc.
Remarkable resistance to abrasion.

In Germany all building materials must be approved by the government before being put upon the market. Sandstone bricks were tested for ten years before they were officially accepted. Plants on a large scale were constructed, and different methods of manufacture employed, and the industry has extended to Great Britain and the Continent.

Please note the following list of prominent German buildings built of sandstone brick.

List of Prominent German Sand-Lime Brick Buildings. Extract from the "Kalksandstein."

Sand-lime brick is without exception a fair substitute for clay brick for all kinds of building, and is in many respects superior to it. For this reason the German municipal and state authorities, who, as is well known, are very strict in their specifications and requirements, are giving sand-lime brick the preference more and more.

The following are some of the public buildings constructed with sand-lime brick:

1. War Office: all buildings on drill grounds at Neuhammer near Sprottau.
2. Criminal Court at Moabit-Berlin.
3. Department of Railroads at Ludwigslust.
4. Station Building at Vordamm-Driesen.
5. Hospital at Moabit-Berlin.
6. Royal Mining Commission at Ibbenburen.
7. Kurhaus at Gottesgabe.
8. Department of Public Works, Province of Hannover, face brick for the House of Correction at Orrel.
9. Memorial Church to Queen Louise at Konigsberg.
10. Department of the Province of Pommern, for the district hospital at Neustettin.
11. Commission for Railroad Inspection at Neustettin.
12. Royal Inspection of Mines at Strassfurt.
13. Grandducal Building Inspectors at Gustrow for official dwelling at Karow.
14. Board of Direction for Railroads at Oldenburg.
15. Magistracy at Pillau.
16. Magistracy at Wormditt.
17. Magistracy at Breslau for school buildings.
18. Magistracy at Posen.
19. Magistracy of the City of Elbing.
20. City of Rheine for school buildings.
21. City of Dorsten for gasworks.
22. District House of Assembly at Neutomischel.
23. Chamber of Finances of the Town of Parchim.
24. Department of Highways at Osnabruck.
25. School buildings at Osnabruck.
26. Crown Lands at Papenzien.
27. City Electrical Works at Wogrowitz.
28. Store-office at Cassel.
29. Magistracy at Halle.
30. Gymnasium at Colonie-Grunewald near Berlin.
31. District Bureau of Building Inspection at Goldap for school buildings.
32. Town of Driesen for school buildings.
33. Board of Direction for Railroads at Bromberg.

What interests the builder most is its resistant power to fire. The following letter from the Little Rock Furniture Company will interest our readers:

Little Rock, Ark., Jan. 20th, 1905.
Mr. S. M. Apperson,
Care of Granite Brick Co.,
Memphis, Tenn.,

Dear Sir—I know you are interested and would like to know how the sand brick stood in the recent fire.

After we had our building constructed, I had a great many misgivings as to whether the sand brick would stand fire, for many of the insurance men were inclined to be prejudiced on account of the brick being, in what they term, experiment, and were afraid that it would not stand against heat and water.

At the time we built our building, the brick plant here had not been completed, and they were not in a position to furnish us brick as rapidly as we wanted them and it was necessary to mix clay brick on the inside work, and on the back wall between the two warehouses. Part of the wall was